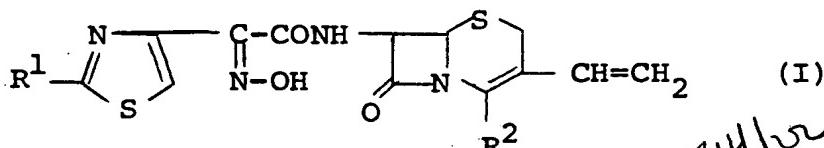


AM

What we claim is :

1. A syn isomer of the compound of the formula :



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- 10 P in which R^1 is amino or a protected amino group, and
R² is carboxy or a protected carboxy group,
and a pharmaceutically acceptable salt thereof.
- 15 2. A compound of claim 1, wherein
 R^1 is amino.
- 20 3. A compound of claim 2, which is
7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-
3-vinyl-3-cephem-4-carboxylic acid (syn isomer) or
its sodium salt or its potassium salt.
- 25 4. A compound of claim 2, wherein
 R^2 is esterified carboxy group.
- 30 5. A compound of claim 4, wherein
 R^2 is lower alkoxycarbonyloxy(lower)alkoxycarbonyl.
6. A compound of claim 5, which is
1-ethoxycarbonyloxyethyl 7-[2-(2-aminothiazol-4-yl)-
2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-
carboxylate (syn isomer) or its hydrochloride.
- 35 7. A compound of claim 4, wherein
 R^2 is lower alkoxycarbonyl(lower)alkoxycarbonyl.

8. A compound of claim 7, which is
8 tert-butoxycarbonylmethyl 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylate (syn isomer).
- 5
9. A compound of claim 4, wherein
R² is carboxy(lower)alkoxycarbonyl.
10. A compound of claim 9, which is
8 carboxymethyl 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylate (syn isomer).
- 15
11. A compound of claim 4, wherein
R² is lower alkanoyloxy(lower)alkoxycarbonyl.
12. A compound of claim 11, which is
8 9 1 l-propionyloxyethyl 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylate (syn isomer).
- 20
13. A compound of claim 11, which is
8 pivaloyloxymethyl 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylate (syn isomer).
- 25
14. A compound of claim 4, wherein
R² is higher alkanoyloxy(lower)alkoxycarbonyl.
- 30
15. A compound of claim 14, which is
8 9 palmitoyloxymethyl 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylate (syn isomer).
- 35
16. A compound of claim 4, wherein

44

R^2 is (5-lower alkyl-2-oxo-1,3-dioxol-4-yl) (lower)-alkoxycarbonyl.

17. A compound of claim 16, which is

5 \checkmark (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylate (syn isomer).

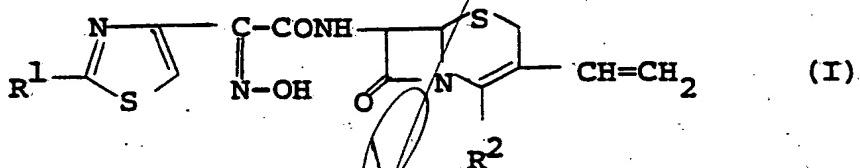
- 10 18. A compound of claim 4, wherein

R^2 is phthalidylloxycarbonyl.

- 15 19. A compound of claim 18, which is

\checkmark phthalid-3-yl 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylate (syn isomer).

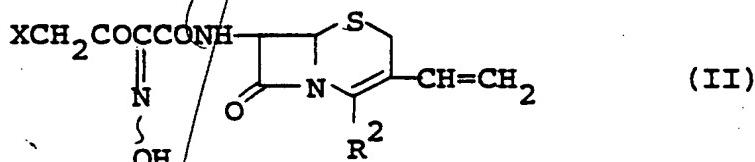
- 20 20. A process for production of a syn isomer of compound of the formula:



25 in which R^1 is amino or a protected amino group,
and

R^2 is carboxy or a protected carboxy group,
and a salt thereof,
which comprises

- 30 (1) reacting a compound of the formula :



in which R^2 is as defined above, and
 X is halogen,

or a salt thereof with a compound of the formula :

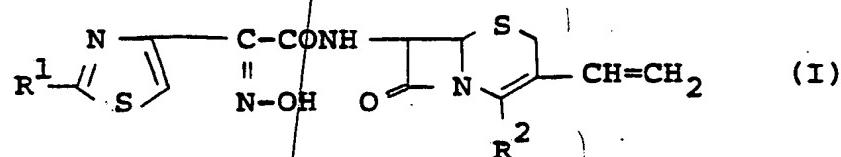
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10

in which R^1 is as defined above,
to give a compound of the formula :

15

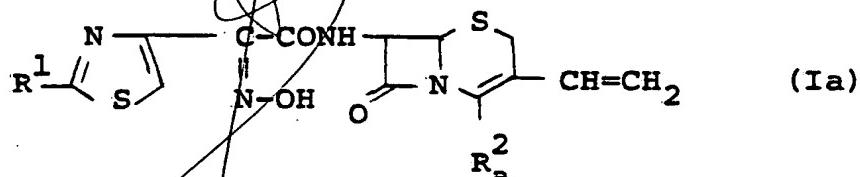


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in which R^1 and R^2 are each as defined above,
or a salt thereof; or

(2) subjecting a compound of the formula :

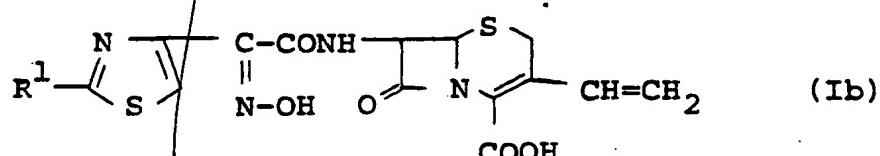
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30

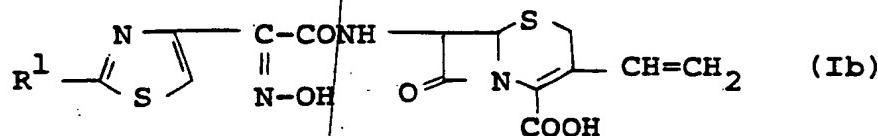
in which R^1 is as defined above, and
 R^2_a is a protected carboxy group,
or a salt thereof to the removal reaction of the
carboxy-protective group to give a compound of the
formula :

35

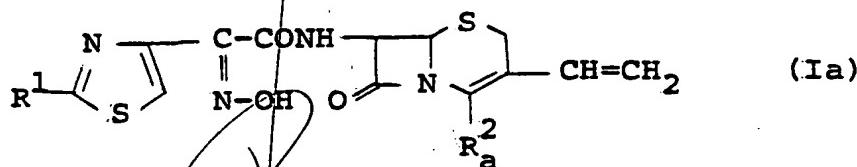


in which R^1 is as defined above,
or a salt thereof; or

- 5 (3) introducing a carboxy-protective group
into a compound of the formula :

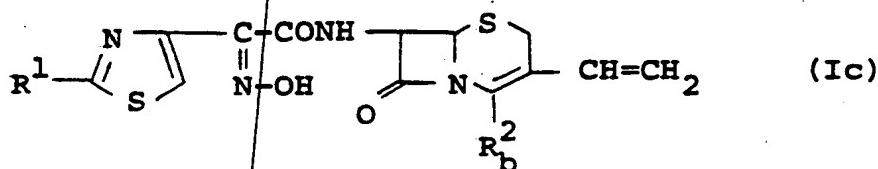


10 in which R^1 is as defined above,
or a reactive derivative at the carboxy group
thereof, or a salt thereof
to give a compound of the formula :



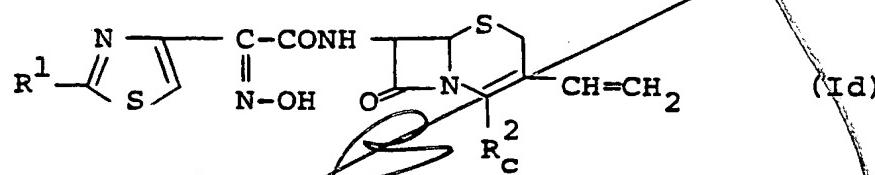
20 in which R^1 and R^2 are each as defined above,
or a salt thereof; or

- 25 (4) subjecting a compound of the formula :



30 in which R^1 is as defined above, and
 R^2 is protected carboxy(lower)-
alkoxycarbonyl,

35 or a salt thereof to removal reaction of the
carboxy-protective group in R^2 to give a compound
of the formula :



in which R¹ is as defined above, and
R² is carboxy(lower)alkoxycarbonyl,
or a salt thereof.

10 *a 20* 21. A pharmaceutical composition which comprises, ~~as an~~ antimicrobially effective amount of active ingredients, a compound of claim 1 and a pharmaceutically acceptable salt thereof in admixture with pharmaceutically acceptable carriers.

15 *a* 22. A method for the treatment of infectious diseases caused by pathogenic microorganisms which comprises administering a compound of claim 1 and a pharmaceutically acceptable salt thereof to infected human being or animals.

20 23. Use of a compound of claim 1 and pharmaceutically acceptable salt thereof for treatment of microbial infections.

25

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35

End

Add B'

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